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Pedal Adjustment: Free travel $\frac{3}{4}$ -1". Adjust by loosening locknut and turning adjusting nut on release rod linking cross-shaft lever to clutch fork. Pedal positioned by rubber bumper under toeboard.

Clutch Over-Center Spring Installation & Adjustment: See *Clutch Notes in Buick Special Data*.

Removal:—Remove Rear Axle & Transmission (see below), take off clutch underpan, disconnect linkage at yoke, remove clutch release bearing support by taking out spring washer in housing, pull out yoke (with release bearing) from fulcrum, mark clutch and flywheel, remove cover mounting screws. Clutch Yoke Boot Installation—See *Clutch Notes in Buick Special Data*.

TRANSMISSION
SYNCHRO-MESH

Own Make. All Helical Gear, constant-mesh, synchro-mesh (Second & High), sliding gear (Low & Reverse) with steering column mounted shift control. See *Transmission Section for complete data*.

Transmission Control: Buick type remote control. See *Transmission Section for complete data*.

Removal (1946-47): Remove Rear Axle, then remove rear transmission support (wire shims to ends of support for correct replacement) and steady rest rod, place engine jacks (J-1580) on frame cross member with pilot end in hole in housing at each side of engine mounting, tighten jacks to take load off mounting, remove selector and shift levers, transmission mounting bolts (install guide pins J-851), remove 2 nuts freeing rear engine mounting (bolt heads seat in notches), adjust jacks to take strain off mounting bolts, remove transmission. See *Buick Shop Notes for Transmission Support Mounting adjustment data on 1946-47 cars*.

Removal (1948): Disconnect Rear Axle (see Rear Axle), drain transmission, fill with clean gasoline or kerosene and run approx. 15 seconds in Neutral, drain cleaner. Disconnect speedometer cable, lower shift rod, and selector rod. (On 40, 50 only, take out toggle spring and extension, remove shift lever and lock washer from selector shaft—hold shift lever in neutral when removing attaching bolt—remove outer selector lever). Install support bar (see Note below) under rear end of oil pan positioning left hook over frame between brake master cylinder and clutch release equalizer, tighten nuts on two hooks evenly. Remove transmission mounting as follows: Disconnect rubber thrust pad from rear of transmission support by taking off 3 nuts and bolt plate, remove shims from behind support, disconnect mounting pad on top of support by taking out 2 attaching bolts and bolt plate, raise engine by turning up on nuts on two support hooks evenly to take load off transmission support, take out transmission support (disconnect at frame ends), and remove thrust pad from thrust plate. Install guide pins J-851 in place of two top mounting bolts, remove remaining mounting bolts, pull transmission straight back and lower from car.

For instructions on Shimming Rear Mounting when installing transmission on 1948 cars, see "Engine Mountings" in *Buick Shop Notes*.

Engine Support Bar Note:—Consists of length of 2 x 4 (approx. width of frame) with hole through each end to take hooked rods (hook rests on top of frame. Raise and lower support by nuts on rods. **Lubrication Note:**—When transmission reinstalled in car, inject $\frac{1}{2}$ pint of transmission lubricant through universal joint yoke before attaching torque tube to transmission.

DYNAFLOW DRIVE
TRANSMISSION

OPTL. ON 1948 ROADMASTER SERIES 70

Own Make. Torque Converter and hydraulically operated planetary unit with manual control. See *Transmission Section for complete data including Testing & Trouble Shooting*.

▷ **Dynaflow Production Changes & Interchangeability Data for new type parts:**—See "Buick Dynaflow" in *Transmission Section*.

▷ **FLYWHEEL BALANCING DYNAFLOW CARS** (To correct vibration caused by replacement parts): See *BUICK DYNAFLOW DRIVE* in *Transmission Section*.

▷ **CRANKSHAFT OR FLYWHEEL REPLACEMENT ON DYNAFLOW CARS:** See *Buick Special Data*.

Dynaflow Linkage Adjustment: See "Buick Dynaflow Drive" in *Transmission Section*.

Throttle Linkage Adjustment & Dashpot Setting: See *CARBURETOR*.

Lubrication:—Check fluid level in transmission every 1000 miles, drain and refill every 25,000 miles.

▷ **Use only Special Buick Oil for Dynaflow Drive or Automatic Transmission Fluid Type "A."** Capacity—(70) 10 quarts. NOTE—Add $1\frac{3}{4}$ pints more when transmission completely dry.

Checking Fluid Level:—Engine must be idling with selector lever at "P" (Parking) and transmission oil warm. Raise right side of floor mat, take off cover in floor above transmission, lift out oil gauge rod. Add fluid to "FULL" mark level with engine idling. **Draining & Refilling:**—See "Buick Dynaflow Drive" in *Transmission Section*.

▷ **CAUTION:**—Engine must be idling with transmission in Parking and transmission oil warm when checking Dynaflow Drive Fluid Level.

Removal: See "Buick Dynaflow Drive" in *Transmission Section*.

UNIVERSALS

Saginaw (All Series) or Spicer 202-13X (40, 50). One used (in torque ball at rear of transmission).

Torque Ball Adjustment:—See *Buick Special Data*.

REAR AXLE

Own Make. Hypoid Gear, Semi-floating type with Torque Tube Drive. See *Rear Axle Section for data*.

▷ **1948 Pinion Rear Bearing Production Change:**—Double roller bearing used on pinion shaft on late 1948 Cars. See "Buick Hypoid" in *Rear Axle Section*.

▷ **CAUTION:**—Gear Set and Case Assembly on 1946-47 cars are heavier than parts used on 1942 cars. See *Buick Rear Axle article in Rear Axle Section for parts identification and interchangeability data*.

Ratio:—4.454-1: Std. 40, 50. 4.1-1: Std. 70 and Late Dynaflow, Optl. 40, 50. 3.9-1: Std. on Early Dynaflow. 3.64-1: Optl. 70.

Backlash:—.006-.010". Screw adjustment.

Removal:—Holst rear end of car. Disconnect parking brake at equalizer, hydraulic brake line at fitting anchored to left channel iron-strut, lower end of shock absorber links, rear radius rod at axle end, lower end of chassis springs (tie springs to bumper for clearance). Disconnect torque tube at universal joint ball, remove axle assembly from beneath car.

▷ **CAUTION:**—Torque tube should not be disconnected from carrier (except for gasket replacement).

Torque Ball Adjustment:—See *Buick Special Data*.

Axle Shaft Removal:—See *Buick Rear Axle article*. **Wheel Bearing Adjustment:**—None.

Rear Suspension: Coil springs & conventional axle. See *Rear Axle Section for complete data*.

SHOCK ABSORBERS

Delco Model 1948-A (front), Model 2105-C,D (rear). Double acting, hydraulic (parallel cylinder rear).

FRONT SUSPENSION

Front Suspension: Independent, linked parallelogram type with coil springs.

See *Front Suspension Section for complete data*.

Kingpin Inclination:— $4\frac{1}{4}^{\circ}$ crosswise for $\frac{3}{8}^{\circ}$ Camber.

Camber:— $\frac{3}{8}^{\circ}$ Positive ($\frac{1}{8}^{\circ}$ Pos. to $\frac{5}{8}^{\circ}$ Neg.) and equal for both wheels within $\frac{1}{4}^{\circ}$. At curb weight.

Caster:— $\frac{3}{8}^{\circ}$ Positive ($\frac{1}{4}^{\circ}$ Pos. to $1\frac{1}{2}^{\circ}$ Pos.) equal for both wheels within $\frac{1}{2}^{\circ}$. At curb weight. Adjustable.

Toe In:— $1/16$ - $\frac{1}{8}$ ". Adjust both tie rods equally.

Steering Geometry (Toe out on Turns):—With outer wheel turned 20° , inner wheel turned $21\frac{1}{2}^{\circ} \pm \frac{3}{4}^{\circ}$.

STEERING GEAR

Saginaw. Ball bearing Worm-and-Nut type.

See *Steering Gear Section for complete data*.

BRAKES

Service: Bendix Hydraulic, Duo-servo, Single Anchor type without Eccentric Adjustment. Parking "Step-on" lever applies rear wheel service brakes.

See *Brake Section for complete data*.

Drums:—Cast Iron type. Diameter 12".

▷ **BRAKE DRUM RECONDITIONING & BALANCING:** See *Brake Notes in Buick Special Data*.

Lining:—Moulded type (all shoes). Width $1\frac{3}{4}$ " (40, 50), $2\frac{1}{4}$ " (70). Thick. $3/16$ ". Lgth. per whl. $23\frac{1}{16}$ ".

Clearance:—.015" at both ends of secondary (rear) shoe with primary shoe forced against drum.

Hand (Parking) Brake: See *Service Brakes (above)*.

NoRol: Optional. See *Brake Section for complete data*.

MISC. MECHANICAL

Power Operated Convertible Tops, Windows, & Front Seat: Hydro-Lectric type (hydraulic actuation with motor-driven pump supplying oil under pressure). See *Miscellaneous Section for complete data*.